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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/960,006	09/20/2001	Surojit Chatterjee	50277-1632	4228

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EXAMINER

OPIE, GEORGE L

ART UNIT	PAPER NUMBER
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2126

DATE MAILED: 11/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.		Applicant(s)	
	09/960,006		Chatterjee et al.	
	Examiner		Art Unit	
	George L. Opie		2151	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _____ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

Status

- 1) ☒ Responsive to communication(s) filed on 3 January 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- a) ☐ All b) ☐ Some * c) ☐ None of the CERTIFIED copies of the priority documents have been:
1. ☐ received.
2. ☐ received in Application No. (Series Code / Serial Number) _____.
3. ☐ received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. & 119(e).

Attachment(s)

- | | |
|---|--|
| 14) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 17) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 15) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 18) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 16) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _ | 19) <input checked="" type="checkbox"/> Other: Text Docs for USP6,438,618 USP5,991,536 |

Art Unit: 2126

DETAILED ACTION

This Office Action is responsive to Applicant's Preliminary Amendment, filed January 3, 2002.

1. Request for copy of Applicant's response on floppy disk:

Please help expedite the prosecution of this application by including, along with your amendment response in paper form, an electronic file copy in WordPerfect, Microsoft Word, or in ASCII text format on a 3½ inch IBM format floppy disk.

Please include all pending claims along with your responsive remarks. Only the paper copy will be entered -- your floppy disk file will be considered a duplicate copy. Signatures are not required on the disk copy. The floppy disk copy is not mandatory, however, it will help expedite the processing of your application. Your cooperation is appreciated.

2. Claim Rejections - 35 U.S.C. § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 1 contains the limitation of "sending a first message to each observer object". This language implies multiple observer objects, but claim 1 only recites "a first client ... register an observer object" in a singular designation. Hence, with respect to the term "each observer object", claim 1 is vague and indefinite.

Claim 3 recites "the observer object registered by the second client". The reference to a "second client" lacks antecedent basis, and likewise, there is no support for the observer object registered by the second client. The line of claims from which claim 3 depends has no "second client" that registers an observer object to define or support the given reference.

Claim 11 contains the limitation of "sending a first message to each observer object". This language implies multiple observer objects, but claim 1 only recites "a first client ... register an observer object" in a singular designation. Hence, with respect to the term "each observer object", claim 11 is vague and indefinite.

4. The U.S. Patents used in the art rejections below have been provided as text documents which correspond to the U.S. Patents. The relevant portions of the text documents are cited according to page and line numbers in the art rejections below. For the convenience of Applicant, the cited sections are

Art Unit: 2126

highlighted in the *text documents*. Consistent with Office procedure, the U.S. Patents corresponding to the *text documents* are also included with this action.

5. Claim Rejections - 35 U.S.C. § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 12-13 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Lortz et al. (U.S. Patent 6,438,618).

As to claim 12, Lortz teaches a method of accessing a shared object (control object 25, p4 27-43) comprising the steps of:

registering with the shared object one or more observer objects (subscribing to event object 35 with filters 31 ... to control object's 25, p6 45 – p7 8)

wherein each observer object of said one or more observer objects is associated with at least one client (multiple clients 20 may subscribe to a single event object 35 so that each client 20 receives the events supported by event object 35, p7 30-45) and an operation of the shared object that includes a plurality of sub-operations (control object creates an event ... indicating the new channel, and indicating the prior channel, p8 43-56) and

when the shared object performs a sub-operation of a particular operation for a particular client (control object 25 receives property commands 23 from the client 20, p4 27-44) sending a message to each observer object that is associated with said particular operation and said particular client (event object 35 receives an event ... and relates the event 22 to each filter 31 in the notifying of all interested clients, p8 7-41) .

Although Lortz does not explicitly describe the filter 31 as a discrete "object" in name, it would have been obvious to employ the object constructs taught by Lortz to implement the filter functionality in separate objects as claimed. The prior art (background of the Lortz reference) discloses the object-

Art Unit: 2126

oriented paradigm; and more specifically, Lortz sets his notification system "in a Component Object Model framework", p2 37-45, Summary of the Invention. For one skilled in the art, it would have been obvious to provide the event observers/filters as objects in the COM architecture, because the object-oriented system furnishes a "communication mechanism to allow components in different modules to communicate." (Lortz background) and this modular encapsulation would enhance application compatibility and enable more additions into the system by supplying standardized observer/filter interfaces to link clients into the monitoring/control services.

As to claim 13, Lortz teaches a method of accessing a shared object (control object 25 is a software object that clients communicate with, p4 27-43) comprising the steps of:

a client informing a shared object that the client is interested in receiving an indication when the shared object performs sub-operations of a particular operation for at least one particular client (the client 20 will connect to event object 35 ... that corresponds to the single control object 25 that supports the type of event the client 20 is interested in, p7 30-45) without receiving indications when said shared object performs sub-operations of said particular operation for clients other than said at least one particular client (if the event [does not] match the parameters set by the filter string, then the event object 35 [does not forward the event] and moves to the next filter 31, if another client is subscribe, p8 7-41) and

the shared object causing the client to receive an indication when the shared object performs each sub-operation of the particular operation for said at least one particular client (each control object 25 signals events to server 30 which then passes all appropriate events 22 to client 20, p6 54 - p7 8) without causing the client to receive indications when said shared object performs sub-operations of said particular operation for clients other than said at least one particular client (if the filter criteria specifies that the client 20 is not interested in the event 22, the server 30 moves to the next filter 31, p8 21-41) .

Lortz does not explicitly describe the filter condition that associates a particular operation with a particular client, however, this stipulation would have been obvious from the filter teachings in Lortz's notification service for controlling objects/devices. Lortz (pages 7-8) clearly details the parameters for specifying filter conditions dictated by a client. He shows how the client data (pointer) is included in the filter connection, and how the service uses this for appropriately relating messages to the proper party. It would have been obvious to utilize this client specific info for certain filtering criteria because as Lortz suggests (Fig. 4) a particular client (child) event/action may

Art Unit: 2126

warrant particular notification; in other words, the client object/action that triggers an event would serve as useful control data dictating particular/specified notification.

7. Claims 1-11 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Lortz et al. (U.S. Patent 6,438,618) in view of Brodsky et al. (U.S. Patent 5,991,536).

As to claim 1, Lortz teaches a method of managing a shared object (communicate with the control object 25, p4 27-43) in an object-oriented environment (COM framework . . . connect various devices so that they may be managed by a single or multiple computers, p3 4-15) the method comprising the steps of:

a first client of said plurality of clients invoking a first method of said shared object to register an observer object (client 20 can register ... to event object 35 ... to a control object's 25 events, p6 54 – p7 8) to notify about an event related to execution of a particular operation (specifying the type of events 22 the client 20 is interested in through filter 31, Id.)

when the shared object performs the particular operation requested by the first client (control object 25 executes property commands from the client 20, p4 27-43) sending a first message to each observer object that has been registered for the particular operation requested by said first client (event object 35 receives an event and relates the event to each filter 31 in the notifying of all interested clients, p8 7-41).

Lortz does not explicitly disclose the object generation and second invocation limitations; however, the creation of one object instance responsive to requests from multiple clients is inherent in the Component Object Model (COM) system for object sharing.

Brodsky teaches an object sharing system wherein each client of said plurality of clients (Workstations 502 and 504, p7 18-27) invoke a second method of said shared object (observed object 112, Id.) to request execution of said particular operation (notification manager transparently maps functions to modify the observed object 112, p5 40-49). It would have been obvious to combine Brodsky's teachings with Lortz because the workstations invoke the function mapping so that each client (workstation 502 and 504) can request/receive the same/particular operation by a client being able to invoke its function call/method that corresponds with a certain target process; in other words, the referenced function invocations taught by Brodsky provide an efficient facility for

Art Unit: 2126

multiple clients to make separate function calls to initiate a specific (same) method on the shared object.

As to claim 2, Lortz (p7 9-29) teaches sending a second message about another event (passes downstairs burglar alarm events) related to execution of the particular operation (downstairs alarms) requested by the first client (downstairs light client 440) to said observer object that was registered by said first client (events are then sent to the alarms event object 455 because the client registered an interest in alarm events).

As to claim 3, Brodsky (p8 7-20) teaches a "calculation observer object 700" which "encapsulates" specified computations performing first & second subtasks for an operation. Brodsky also teaches a "total observer object 702" that reads-on the notifying the client responsive to completion of the respective subtasks. It would have been obvious to combine Brodsky's observer object teachings with Lortz because the "abstracted" observer objects can be tailored to receive notification upon completion of specific operations, thus making sure the target processing is complete before sending a result.

As to claim 4 Lortz teaches a first client invoking another method of said shared object (client 20 may connect to another control object 25, p7 30-45) to register another observer object about another event related to execution of said first operation (client 20 adds a new filter for object 35 specifying another event of interest, p8 7-41) wherein said other method is different than said first method.

As to claim 5, Lortz teaches "client objects 29", p4 27-43 and "parameters of the filter", p8 7-41 that contain client info and function as client specific objects that store data associated with each client.

As to claim 6, Lortz teaches the invoking a particular method of said client specific object (client objects 29, p4 27-43) created for said first client that returns information that may be used to access the observer object that was registered by said first client (event object 35 ... filter 31 includes pointer 32 to the client, p7 30-57).

As to claim 7, Lortz (p4 27-43) teaches the "client objects communicate with the control objects 25" and using a function of these client object, the shared (control object) will then "signal state or property changes". Responsive to the control object sending the event signal, the system stores a reference value to the observer (event object 35, p8 7-31) indicative of the event for the client.

As to claim 8, Brodsky (p7 1-9) teaches an "AddNotifier" function that causes the notification manager 110 to create an observer object 116 for a client which

Art Unit: 2126

corresponds to the recited client method invocation for a requested instance of the shared object. It would have been obvious to combine Brodsky's teachings with Lortz because the AddNotifier function provides a method by which client-objects could request to generate or receive events of a given object/operation sans recreating the object if it already exists in the system.

As to claim 9, Lortz teaches for each client of said plurality of clients (iterates over each client 20, p8 7-41) performing the following steps when the shared object performs the particular operation requested by said first client (control object 25 signals events to interested clients 20, p6 45 – p7 8) identifying said each client (filter 31 includes pointer 32 to the client, p7 54-57) determining whether said each client has registered an observer object about the event related to execution of the particular operation requested by said first client (compares the event 22 to the filter string 33 of each client 20, p8 7-41) and if said each client has registered an observer object, then sending a first message to said observer object by invoking said second method of said observer object (event object 35 receives an event from control object 25, and relates it to the filter 31, Id.).

As to claim 10, Lortz teaches sending a first message to each observer object (event object 35 receives an event, p8 7-41) that has been registered for the particular operation requested by said first client (subscribing to event object 35 ... and specifying the types of events 22 the client 20 is interested in through event filters 31, p6 45 – p7 8) includes sending a first message to each client of said plurality of clients (multiple clients may subscribe so that each client 20 receives the events supported by the event object 35, p7 30-45).

As to claim 11, see the discussion of claim 1 supra. The limitations recited in claim 11 are functionally equivalent to the claim 1 limitations.

8. The prior art of record and not relied upon is considered pertinent to the applicant's disclosure. Specifically, the below reference(s) will also have relevancy to one or more elements of the Applicant's claimed invention as follows:

U.S. Patent No. 6,782,541 to Cohen et al. which teaches the observers and notifiers for coordinating object sharing;

U.S. Patent No. 6,775,658 to Zothner which teaches the configuration of a CORBA server controlling object/data retrieval;

U.S. Patent No. 6,748,455 to Hinson et al. which teaches the object-oriented system for managing multi-accessed resources;

U.S. Patent No. 6,363,435 to Fernando et al. which teaches the listening object with filter for specified event communications;

Art Unit: 2126

U.S. Patent No. 5,819,281 to Cummins which teaches the notification of changes through proxies that serve as relays for shared objects; and, U.S. Patent No. 5,608,909 to Atkinson et al. which teaches the basic mechanisms for object sharing .

Contact Information:

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system.

Status information for published applications may be obtained from either Private-PAIR or Public-PAIR.

Status information for unpublished applications is available through Private-PAIR only.

For more information about the PAIR system, see <http://pair-direct.uspto.gov>.

Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

- ☐ All responses sent by U.S. Mail should be mailed to:

Commissioner for Patents
PO Box 1450
Alexandria, VA 22313-1450

- ☐ Hand-delivered responses should be brought to Crystal Park Two, 2021 Crystal Drive, Arlington, VA., Sixth Floor (Receptionist). All hand-delivered responses will be handled and entered by the docketing personnel. Please do not hand deliver responses directly to the Examiner.

The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

All OFFICIAL faxes will be handled and entered by the docketing personnel. The date of entry will correspond to the actual FAX reception date unless that date is a Saturday, Sunday, or a Federal Holiday within the District of Columbia, in

Art Unit: 2126

which case the official date of receipt will be the next business day. The application file will be promptly forwarded to the Examiner unless the application file must be sent to another area of the Office, e.g., Finance Division for fee charging, etc.

- ☐ Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist at **(703) 305-9600**.
- ☐ Any inquiry concerning this communication or earlier communications from the examiner should be directed to George Opie at (703) 308-9120 or via e-mail at *George.Opie@uspto.gov*. Internet e-mail should not be used where sensitive data will be exchanged or where there exists a possibility that sensitive data could be identified unless there is an express waiver of the confidentiality requirements under 35 U.S.C. 122 by the Applicant. Sensitive data includes confidential information related to patent applications.

Note: Due to the PTO's move to Alexandria, the above-listed examiner's telephone number will be changed. As of 8 October 2004, Mr. Opie can be reached at (571) 272-3766.


MENGAL T. AN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100